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Database Systems
Professor Labouseur

Lab 7: Normalization One

Part 1:

1. I would say its good that he has collected the data but that his formatting needs some work if it is to be used in a database.
- 2.

PackageID	TagNumber	InstallMonth	InstallDay	InstallYear	SoftwareCostUSD
AC01	32808	09	13	2005	754.95
DB32	32808	12	03	2005	380.00
DB32	37691	06	15	2005	380.00
DB33	57772	05	27	2005	412.77
WP08	32808	01	12	2006	185.00
WP08	37691	06	15	2005	227.50
WP08	57222	05	27	2005	170.24
WP09	59836	10	30	2005	35.00
WP09	77740	05	27	2005	35.00

3. The primary key for the table is PackageID and TagNumber together.

Part 2:

- 4.

PackageID	Package Name	TagNumber	Computer Model	InstallMonth	InstallDay	InstallYear	SoftwareCostUSD
AC01	Assassian's Creed 1	32808	IBM	09	13	2005	754.95
DB32	PostgreSQL	32808	IBM	12	03	2005	380.00
DB32	PostgreSQL	37691	IBM	06	15	2005	380.00
DB33	Microsoft SQL Server	57772	APPLE	05	27	2005	412.77
WP08	Dreamweaver	32808	IBM	01	12	2006	185.00
WP08	Dreamweaver	37691	IBM	06	15	2005	227.50
WP08	Dreamweaver	57222	APPLE	05	27	2005	170.24
WP09	NoteTabPro	59836	APPLE	10	30	2005	35.00
WP09	NoteTabPro	77740	HP	05	27	2005	35.00

5. Package Name has functional dependence on PackageID, Computer Model has functional dependence on TagNumber. InstallMonth, InstallDay, InstallYear and SoftwareCost all have functional dependence on the primary key (PackageID&TagNumber).
6. Because Package Name has partial key dependence on PackageID and not TagNumber the table violates second normal form which is required for a table to be in third normal form.

Part 3:

SoftwarePackage	
PackageID	Package Name
AC01	Assassian's Creed 1
DB32	PostgreSQL
DB33	Microsoft SQL Server
WP08	Dreamweaver
WP09	NoteTabPro

ComputerInfo	
TagNumber	Computer Model
32808	IBM
37691	IBM
57772	APPLE
57222	APPLE
59836	APPLE
77740	HP

Install Info					
PackageID	TagNumber	InstallMonth	InstallDay	InstallYear	SoftwareCostUSD
AC01	32808	09	13	2005	754.95
DB32	32808	12	03	2005	380.00
DB32	37691	06	15	2005	380.00
DB33	57772	05	27	2005	412.77
WP08	32808	01	12	2006	185.00
WP08	37691	06	15	2005	227.50
WP08	57222	05	27	2005	170.24
WP09	59836	10	30	2005	35.00
WP09	77740	05	27	2005	35.00

7. **SoftwarePackage:** PackageID is the primary key.

ComputerInfo: TagNumber is the primary key.

Install Info: PackageID & TagNumber together are the primary key.

8. **SoftwarePackage:** Package name is dependent on PackageID.

ComputerInfo: Computer Model is dependent on TagNumber.

Install Info: All other columns (InstallMonth, InstallDay, InstallYear and SoftWare Cost) have dependence on the primary key.

9. Since all partial key dependencies are removed and there are no non-key column dependencies the new tables are in third normal form.

10.

SoftwarePackage	
PackageID	Package Name

ComputerInfo	
TagNumber	Computer Model

Install Info					
PackageID	TagNumber	InstallMonth	InstallDay	InstallYear	SoftwareCostUSD